



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,548	08/30/2001	Xingxi Zhou	0425-0851P	7901
2292	7590	11/10/2003	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			FELTON, AILEEN BAKER	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,548

Applicant(s)

Zhou et al

Examiner

Aileen Felton

Art Unit

3641



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 13, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-74 is/are pending in the application.
- 4a) Of the above, claim(s) 25-28, 31, 32, 35-38, 41-66, and 69-71 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23, 24, 29, 30, 33, 34, 39, 40, 67, 68, and 72-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

Art Unit: 3641

DETAILED ACTION

Election/Restriction

1. Applicant's election of species in Paper No. 11 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 25-28, 31, 32, 35-38, 41-66, and 69-71 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 11.

Claim Objections

3. Claims 33, 34, 39, and 72-74 are objected to because of the following informalities:
These claims all depend on at least one claim that has been withdrawn from consideration.
Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3641

5. Claims 29, 30, 33, 34, 39, 40, and 72-74 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a particular gas generating composition, does not reasonably provide enablement for any gas generant composition that comprises a guanidine derivative and a basic metal nitrate. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Applicant's claims however require two ingredients with no amounts and read on any gas generating composition that merely has these two ingredients. Clearly it is not the case that any gas generating composition with a guanidine derivative and a basic metal nitrate would achieve the weight loss ratio, concentration of trace gases or maximum internal pressure. One of ordinary skill in the art would not be able to determine what compositions would meet one or more of these limitations without undue experimentation.

6. Claims 29, 30, 33, 34, 39, 40, and 72-74 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The specific fuel, oxidizer, and binder are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Applicant's claims require that a specific weight loss ratio, concentration of trace gases or maximum internal pressure is achieved but only requires two ingredients with no amounts. Since these ingredients with amounts are essential to achieving the claimed weight loss ratio, concentration of trace gases or maximum internal pressure they must be included in the claims.

Art Unit: 3641

One of ordinary skill in the art would not be able to determine what compositions would meet this limitation without undue experimentation.

7. Claims 29, 30, 33, 34, 39, 40, and 72-74 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the specific fuel, oxidizer and binder with amounts. Since these ingredients and amounts are essential to achieving the claimed weight loss ratio, concentration of trace gases or maximum internal pressure they must be included in the claims. One of ordinary skill in the art would not be able to determine what compositions would meet this limitation without undue experimentation.

8. Claims 72-74 provides for the use of a gas generating composition, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 72-74 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Art Unit: 3641

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

10. Claims 23, 24, 29, 30, 33, 34, 39, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Barnes et al(5,608,183).

Barnes et al discloses a gas generating composition that comprises 58.9 % of basic copper nitrate, 41.1 % of guanidine nitrate, and 5.3 % guar gum as a binder. The composition is extruded into long strands with a single perforation and then chopped. See Example 2. The weight loss ratio, concentration of trace gases or maximum internal pressure are inherent properties of this composition. As to limitations which are considered to be inherent in a reference, note the case law of *In re Ludke*, 169 USPQ 563; *In re Swinehart*, 169 USPQ 226, *In re Fitzgerald*, 205 USPQ 594; *In re Best et al*, 195 USPQ 430; and *In re Brown*, 173 USPQ 685, 688.

Art Unit: 3641

11. Claims 23, 24, 29, 30, 33, 34, 39, and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Mendenhall(5,841,065).

Mendenhall discloses a gas generating composition that comprises 40.3 % of basic copper nitrate, 15.7 % of guanidine nitrate, and 5.7 % guar gum as a binder. See Example. The weight loss ratio, concentration of trace gases or maximum internal pressure are inherent properties of this composition. As to limitations which are considered to be inherent in a reference, note the case law of *In re Ludke*, 169 USPQ 563; *In re Swinehart*, 169 USPQ 226, *In re Fitzgerald*, 205 USPQ 594; *In re Best et al*, 195 USPQ 430; and *In re Brown*, 173 USPQ 685, 688.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes et al(5,608,183) as applied to claims above 23, 24, 29, 30, 33, 34, 39, and 40, and further in view of Matsuda et al(5,780,767) or Zhou(6,468,369) or Seeger(5,834,679)..

Matsuda, Zhou, and Seeger teach the use of a sodium salt of carboxymethylcellulose for use as a binder with explosive compositions.

Art Unit: 3641

It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute sodium carboxymethylcellulose for the guar gum disclosed by Barnes et al since they are both known water soluble binders and would have the same result on the gas generating composition.

14. Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mendenhall(5,841,065) as applied to claims above 23, 24, 29, 30, 33, 34, 39, and 40, and further in view of Matsuda et al(5,780,767) or Zhou(6,468,369) or Seeger(5,834,679)..

Matsuda, Zhou, and Seeger teach the use of a sodium salt of carboxymethylcellulose for use as a binder with explosive compositions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute sodium carboxymethylcellulose for the guar gum disclosed by Mendenhall since they are both known water soluble binders and would have the same result on the gas generating composition.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

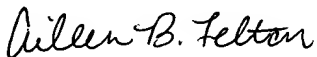
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen Felton whose telephone number is (703) 306-5751. The examiner can normally be reached on Monday through Friday from 6:30 am to 4:00 pm.

Art Unit: 3641

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198.

The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687. The fax number for submissions before a final action is (703) 872-9326, for after final submissions is (703) 872-9327, and customer service is (703) 872-9325.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


Aileen B. Felton